

REMARKS

Claims 10-12 and 16-18 are pending in this application, of which claim 10 has been amended. No new claims have been added.

Claims 10-12 stand rejected under 35 U.S.C. § 102(b) as anticipated by Liu et al. (previously applied).

Applicants respectfully traverse this rejection.

Liu et al. discloses a permanent magnet rotor configuration which produces four magnetic poles utilizing two sets of symmetrically-disposed permanent magnets. The slots carrying the magnets exhibit a truncated V-shaped configuration, extending from points on the periphery of the rotor to meet the ends of a straight, central portion which lies parallel to a tangent to the rotor shaft. A short magnetic bridge interrupts the center of each slot, the slots being disposed generally symmetrically upon opposite sides of the rotor shaft.

The permanent magnets (unnumbered) arranged in slots 36, 27 do not have lengths which are “radially disposed,” as is required in claims 10-12 (see FIG. 30), and permanent magnets 43a, 43b, 43c and 43d, which do have lengths radially disposed, are not arranged substantially adjacent to the rotating shaft, as is required in claims 10-12. In fact, magnets 43a, 43b, 43c and 43d are arranged far from the rotating shaft.

Thus, the 35 U.S.C. § 102(b) rejection should be withdrawn.

Claims 16-18 stand rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent 4,403,161 to Miyashita et al. (hereafter, “Miyashita et al.”), and claim 17 stands rejected under

35 U.S.C. § 102(b) as anticipated by Miyashita et al.

Applicants respectfully traverse this rejection.

Miyashita et al. discloses a permanent magnet rotor used in a synchronous motor or the like comprising a shaft, an iron core and permanent magnets. Each of the permanent magnets which is mounted on the hollow rotor core has an arc shape, and the radial center of the arc shape is positioned on the axis of the shaft or at a point slightly deviated from the shaft axis.

Column 3, lines 15-33 disclose:

A pulsating magnetic flux which passes through the permanent magnet generally passes through a portion of the laminated iron core which is interposed between the permanent magnet and the shaft. This is because the magnetic flux passes through the shaft only with difficulty because of skin effect since the shaft is bulky, and hence it concentrates in the iron core. In the present embodiment of the invention, since the width or a portion of the iron core 3 which is interposed between the shaft 2 and the permanent magnets 4 and 5 is the same at the center of the pole and at the end of the pole, (i.e. the width c at the center of the pole \approx the width d at the end of the pole), the magnetic flux concentrates at the end of the pole so that the reluctance of this end portion increases to reduce the pulsating magnetic flux passing through the permanent magnets 4 and 5. Consequently, density of the high frequency pulsating magnetic flux which passes through the permanent magnets 4 and 5 can be reduced.

This passage suggests that at least some portion of the magnetic field does pass through the rotating shaft in Miyashita et al., in contrast to the recitations in claims 16, 17 and 18 of the instant application, which language excludes any portion of the magnetic field passing through the rotating shaft.

Thus, the 35 U.S.C. § 102(b) rejection should be withdrawn.

U.S. Patent Application Serial No. 10/692,865
Response to Office Action dated June 27, 2006

In view of the aforementioned amendments and accompanying remarks, claims 10-12 and 16-18, as amended, are in condition for allowance, which action, at an early date, is requested.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

ARMSTRONG, KRATZ, QUINTOS,
HANSON & BROOKS, LLP


William L. Brooks

Attorney for Applicant

Reg. No. 34,129

WLB/ak
Atty. Docket No. 020265A
Suite 1000
1725 K Street, N.W.
Washington, D.C. 20006
(202) 659-2930



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